

ABSTRACT

A programmable circuit receives configuration data from an external source, stores the firmware in a memory, and then downloads the firmware from the memory. Such a programmable circuit allows a system, such as a computing machine, to modify the programmable circuit's configuration, thus eliminating the need for manually reprogramming the configuration memory. For example, if the programmable circuit is an FPGA that is part of a pipeline accelerator, a processor coupled to the accelerator can modify the configuration of the FPGA. More specifically, the processor retrieves from a configuration registry firmware that represents the modified configuration, and sends the firmware to the FPGA, which then stores the firmware in a memory such as an electrically erasable and programmable read-only memory (EEPROM). Next, the FPGA downloads the firmware from the memory into its configuration registers, and thus reconfigures itself to have the modified configuration.